

SKETCHES, P. 1.

"Profile of a Tool Operating by the Rollin Method" Standard Instrument 18, No. 2 1930.
ENUS.

Report N-1500, 10 Oct. 1971.

SHISHKOV, . A., Engineer

"Measuring Worm with Rollers", Stan'ki i Instrument, 11, no.3. 1955.

BR-1001010.

CHANDLER, J. A., Engineer

"Setting Up the Profile of a Tool or Work Piece by the Graphic Rolling Method",
Standard Instrument, 14, No. 3, 1243.

PR-52069012.

SHISHKOV, V. A.

Podbor zubchatykh kolez. Moskva, Mashgiz, 1946. 206 p. diagrs.

Matching gear wheels.

DLC: TJ184.S5

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

..... , . .

"Cutting Angles of Tools in Complex Movements."
Stanki i Instrument, 17, no. 16, 1946.

PT-52059012

SHISHKOV, V. A.

Shishkov, V. A. - "Determination of the profile linked with a given profile when burnishing," Trudy ENIS(Eksperim. nauch.-issled. in-t metallovezhushchikh stankov), Issue 1, 1948, p. 35-65

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949.)

SHISHKOV, V. A.

Korrigirovanie kontakta globoidnykh peredach. (Vestn. Mash., 1950, no. 11, p. 12-16)

Adjusting the contact of cone drives.

DLC: TM4.V4

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

SHISHKOV, V.A., doktor tekhn.nauk

Using the kinematic method in investigating pairs of gears
and their machining. Izv.vys.ucheb.zav.; mashinostr. no.5:121-
131 '58. (MIRA 12:5)

1. Moskovskiy vecherniy mashinostroitel'nyy institut.
(Gearing) (Gear cutting)

SOV/115-58-6-6 '13

AUTHOR: Shishkov, V.A.

TITLE: Determination of the Errors in Mechanisms with Lower Pairs (Opredeleniye oshibok mekhanizmov s nizshimi parami)

PERIODICAL: Izmeritel'naya tekhnika, 1958. Nr 6, pp 12-15 (USSR)

ABSTRACT: If there are errors in the design of a mechanism consisting of links etc., the error multiplies in the following links. Academician N.G. Bruyevich proposed a graphical method for determining the small shifts caused by the leading link. The diagram of small shifts has much in common with a diagram of speeds. The difference, however, is that every point is moved by the wrong shift from its ideal position. In Figure 1 the point B may be shifted along the line AB due to a change in length of the link and perpendicularly to line AB due to a change of the angle. Tangential shifts are determined by the proportion of their distances from the center of turning (Figure 2). The plotting of a diagram of small shifts for a crank mechanism is shown in Figure 3. More complicated

Card 1/2

SOV/115-58-6-6/43

Determination of the Errors in Mechanisms with Lower Pairs

cases are illustrated in Figures 4 and 5. The described method may be used for finding the influence of the error of the various links on the error of the leading link as well as on the error of any other link. There are 5 diagrams.

Card 2/2

SHISHKOV, V.A.

Fundamentals for precision design of gear-cutting and screw-cutting
machines. Stan.i instr. 29 no.1:4-7 Ja '58. (MIRA 11:1)

(Gear-cutting machines)

(Screw-cutting machines)

AVRUTIN, S.V., inzh.; BAKLUNOV, Ye.D., kand.tekhn.nauk; GLEYZER, L.A.,
kand.tekhn.nauk; YEFIMOV, V.P., kand.tekhn.nauk; KARTSEV, S.P.,
inzh.; KEDRINSKIY, V.N., inzh., laureat Leninskoy premii;
KORZINKIN, V.I., inzh.; KOSILOVA, A.G., kand.tekhn.nauk; MALOV,
A.N., kand.tekhn.nauk; MATYUSHIN, V.M., doktor tekhn.nauk;
OSTRETISOV, G.V., kand.tekhn.nauk; PANCHENKO, K.P., kand.tekhn.
nauk; PARFENOV, O.D., kand.tekhn.nauk; ROZHDESTVENSKIY, L.A., kand.
tekhn.nauk; ROMANOV, V.F., kand.tekhn.nauk; SAVERIN, M.M., doktor tekhn.
nauk; SAKHAROV, G.N., kand.tekhn.nauk; SOKOLOVSKIY, I.A., inzh.;
FRUMIN, Yu.L., inzh.; SHISHKOV, V.A., doktor tekhn.nauk; ACHERKAN,
N.S., prof., doktor tekhn.nauk, glavnyy red.; VLADISLAVLEV, V.S., red.
[deceased]; POZDNYAKOV, S.N., red.; ROSTOVYKH, A.Ya., red.; STOLBIN,
G.B., red.; CHERNAVSKIY, S.A., red.; KARGANOV, V.G., inzh., red.
graficheskikh rabot; GIL'DENBERG, M.I., red.isd-va; SOKOLOVA, T.F.,
tekhn.red.

[Metalworking handbook; in five volumes] Spravochnik metallista v
piati tomakh. Chleny red.soveta: V.S.Vladislavlev i dr. Moskva,
Gos.nauchno-tekhn.isd-vo mashinostroit.lit-ry. Vol.5. 1960. 118⁴ p.
(MIRA 13:5)

(Metalwork)

SHISHKOV, V.A., doktor tekhn.nauk, prof.

Analyzing errors in kinematic chains of machinery. Vzaim.i
tekh. izm.v mashinostr.; mezhvuz.sbor. no.3:102-121 '61.
(MIRA 14:8)

(Machinery, Kinematics of)

SHISKHOV, V.A.; SHILOVA, Ye.A.

Analyzing cyclic errors of thread-grinding and screw-cutting machines.
Stan. i instr. 34 no.2:22-24 F '63. (MIRA 16:5)
(Screw-cutting machines)

PETRIK, E.I.; SHISHKOV, V.A.

[Tables for the selection of cog wheels] Tablitsy dlia
podbora zubchatykh koles. Izd.2., perer. i dop. Mo-
skva, Izd-vo "Mashinostroenie," 1964. 450 p.
(MIRA 17:6)

GOROSHKOV, Yu.N., kand. tekhn. nauk; KUPTSOV, Yu.Ye., inzh. SHISHKOV, V.F.,
inzh.

Boltless clip for contact conductors developed by the Central
Scientific Research Institute of the Ministry of Railroad
Transportation. Vest. TSNII MPS 18 no.7:61-63 N '59.
(MIRA 13:2)

(Electric railroads--Wires and wiring)

GOROSHKOV, Yu.I., kand.tekhn.nauk; SHISHKOV, V.F., inzh.

Small sectional insulators with insulating inserts made from
glass textolite. Vest. TSNII MPS 17[i.e. 19] no.7:38-40
'60. (MIRA 13:11)

(Electric insulators and insulation)
(Glass reinforced plastics)

BILIK, Sh.M., doktor tekhn.nauk; GOROSHKOV, Yu.I., kand.tekhn.nauk;
SHISHKOV, V.F., inzh.

Plastic wire clamps. Elek. i tepl. tiaga 4 no.11:12-14 N '60.
(MIRA 13:12)

(Electric railroads—Wires and wiring)

SHISHKOV, V. G.

✓ 5.6-2
 [B]luzana, L. I. Sinopticheskie uslovia ekstremal'no-teplykh i ekstremal'no-kholodnykh sinopticheskikh sezonov vostochno na evropeiskoi territorii SSSR. [Synoptic conditions of extremely warm and extremely cold synoptic spring seasons in European U.S.S.R.] *Leningrad, Tsentralnyi Institut Prognozov, Trudy*, 11 (1981): 29, 1949. 13 figs., 18 tables. Also: Kist, M. I. A. Sinopticheskie uslovia ekstremal'no-teplykh i ekstremal'no-kholodnykh letnikh sinopticheskikh sezonov na evropeiskoi territorii SSSR. [Synoptic conditions of extremely warm and extremely cold synoptic summer seasons in European U.S.S.R.] *Ibid.*, p. 30-85. 24 figs., 16 tables. And: Shishkov, V. G. Sinopticheskie uslovia ekstremal'no-kholodnykh i ekstremal'no-teplykh sinopticheskikh sezonov oseni na evropeiskoi territorii SSSR. [Synoptic conditions of extremely cold and extremely warm synoptic autumn seasons in European U.S.S.R.] *Ibid.*, p. 86-109. 10 figs., 11 tables. And: Buranova, E. I. Sinopticheskie uslovia ekstremal'no-teplykh i ekstremal'no-kholodnykh sinopticheskikh sezonov zimy na evropeiskoi territorii SSSR. [Synoptic conditions of extremely cold and extremely warm synoptic winter seasons in European U.S.S.R.] *Ibid.*, p. 110-134. 12 figs., 15 tables. And: Buranova, E. I. Sinopticheskie uslovia ekstremal'no-kholodnykh i ekstremal'no-teplykh sinopticheskikh sezonov zimy na evropeiskoi territorii SSSR. [Synoptic conditions of extremely cold and extremely warm synoptic winter seasons in European U.S.S.R.] *Ibid.*, p. 135-161. 15 figs., 8 tables. DLC—These 180 studies were prepared for improvement of seasonal long range forecasts. Synoptic maps for the period 1891-1947 were used for this investigation as well as climatic data for the same period and also charts of baric topography, especially for the 500 mb level for the period 1918-1948. All seasons, when anomalies of temperature were not less than $\pm 2^{\circ}\text{C}$ were considered as extremely warm and cold. The studies present an analysis of the synoptic situation which preceded the anomalies and give descriptions of climatic conditions during the period of the anomalies. Many specific situations are shown on maps. Tables of frequency of cases and practical principles for forecasting thermal seasonal anomalies are given in each study. L. I. Bluzana established that cold invasions during warm springs are observed over European U.S.S.R. not more than 1 to 3 times per season and usually do not penetrate into the southern regions. But during a cold spring these cold waves return about 4 to 7 times and invade up to 2 to 5 times the southern and southeastern parts of the territory. Surplus amount of precipitation is observed in the western part during warm springs and in the eastern part during cold springs. Deficiency of precipitation is observed during cold springs in the western and during warm springs in the eastern part of European U.S.S.R. The study made by M. I. Kist classifies peculiarities of synoptic processes preceding the summer, shows that the type of synoptic processes before warm and cold summer anomalies are very different and the

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"Revision of the principal synoptic method for Long-range forecasts of weather"

Meteorol. i Klimatol. iya, No 1, 1955, 1-11

in connection with P. D. Astarenko in connection with his article on the same theme. (See Meteorol. i Klimatol. iya, No 1, 1955) (Meteorol. No 1, 1955)

So: Sun. 4:2, 12 May 55

SHISHKOV, V. G.

"Certain Refinements in the Procedure for Forecasting the Extremely Warm
and Extremely Cold Synoptic Seasons of Autumn".

Tr. Tsentr. in-ta, prognozov, No 36, pp 19-36, 1954.

The types of synoptic processes observed and predominating in synop-
tic seasons of the second half of summer which precede extremely warm
autumnal seasons are determined, together, with indications as to the
frequency of those processes that ensure temperature extremes in autumn.
(RZhGeol, No 9, 1955)

SO: Sum No 884, 9 Apr 1956

SHISHKOV, V.G.

AID P - 2602

Subject : USSR/Meteorology

Card 1/2 Pub. 71-a - 5/26

Author : Shishkov, V. G.

Title : Importance of certain features of current seasonal periods based on synoptic charts for the prognostication of the next seasonal period

Periodical : Met i gldr, 4, 28-31, J1/Ag 1955

Abstract : The article deals with short-range weather forecasting based on synoptic charts of previous seasonal weather conditions. The author maintain that analogous conditions at a given period are not necessarily followed by analogous seasonal weather conditions in the next period. A table listing errors in forecasting based on synoptic charts is given. The use of synoptic chart forecasting is recommended only for long-range weather prognosis. Three Russian references, 1940-1950.

SHISHKOV, V.G.

Regularities in the development of atmospheric processes. Meteor.
i gidrol. no.7:12-16 J1 '57. (MLRA 10:8)
(Atmosphere)

SHISHKOV, V.G.

Method of preparing monthly weather forecasts based on the
repetition of synoptic processes. Trudy TSIP no.71:17-26
'58. (MIRA 11:12)

(Weather forecasting)

SHISHKOV, V.G.

Studying analogous conditions in atmospheric circulation and
weather. Trudy TSIP no.89:150-157 '60. (MIRA 14:3)
(Weather forecasting)

SHISHKOV, V.G.

Use of foreign methods in monthly weather forecasting under
conditions prevailing in the European part of the U.S.S.R.
and Western Siberia. Meteor. i gidrol. no.9:29-33 S '61.
(MIRA 14:8)

(Weather forecasting)

ACCESSION NR: AP4022214

S/0050/64/000/003/0036/0041

AUTHOR: Shishkov, V. G. (Candidate of geographical sciences)

TITLE: Some questions on the synoptic method of long range weather forecasting

SOURCE: Meteorologiya i gidrologiya, no. 3, 1964, 36-41

TOPIC TAGS: synoptic method, weather forecasting, long range weather forecasting, analogue characteristic, reciprocal characteristic, reciprocal synoptic process, analogue process

ABSTRACT: The author has examined critically some methods of weather forecasting, particularly the method of Z. L. Turketti, who maintains that an analysis of the similarity of average values of H_{500} on maps for a synoptic period by means of the parameter ρ_{Σ} is more objective and more fundamental in weather prediction than any other method yet employed. This parameter represents the total characteristics of coincidence in direction of the zonal (ρ_{λ}) and meridional (ρ_{ϕ}) components of flow on two charts of A_{500} . Since the components range from +1 to -1, ρ_{Σ} ranges

Card 1/2

ACCESSION NR: AP4022214

from -2 to +2. The author considers this parameter in various aspects and numerical values, from analogue and reciprocal approaches. He computes the value from maps showing average values of H_{500} for synoptic periods, and he demonstrates from this that the parameter cannot reflect the analogue character of weather development during a synoptic period. His analysis of results obtained by using the parameter indicates that these results very commonly distort actual similarity during development of two synoptic periods, especially when one employs reciprocal synoptic processes. The author concludes, therefore, that ρ_{Σ} is not satisfactory in forecasting. He discusses other factors that indicate Turketti's criteria for prediction are invalid. Orig. art. has: 1 figure and 1 table.

ASSOCIATION: Tsentral'nyy institut prognozov (Central Forecasting Institute)

SUBMITTED: 00

DATE ACQ: 08Apr64

ENCL: 00

SUB CODE: AS

NO REF SOV: 008

OTHER: 000

Card 2/2

SHISHKOV, V.G., kand. geogr. nauk

Spring. Zem.i vsel. 1 no.2:84-85 Mr-Ap '65.

(MIRA 18:8)

ACC NR: AP6035695

(N)

SOURCE CODE: UR/0413/66/000/019/0043/0043

INVENTOR: Vorontsov, Ye. S.; Pashkeyev, I. Yu.; Mikhaylov, G. G.; Shishkov, V. I.

ORG: none

TITLE: Method of copper foil production. Class 18, No. 186527 [announced by the Chelyabinsk Polytechnic Institute (Chelyabinskiy politekhnicheskiy institut)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 19, 1966, 43

TOPIC TAGS: copper foil, ~~shaped copper foil~~, ~~shaped copper foil production~~ *copper, metal foil, sheet metal*

ABSTRACT: This Author Certificate introduces a method of copper-foil production. To obtain foil of various thicknesses and configurations without strain hardening, the copper blank is subjected to oxidation at 750—800C for 1—1.5 hr with subsequent reduction of the oxide film in a hydrogen atmosphere at 500—600C for 3—5 min, and separation of cooled foil from the blank.

SUB CODE: 13/ SUBM DATE: 25Jun65/

Card 1/1

UDC: 621.785.33:621.785.34.062-416.002.2

SHISHKOV, V.I. (Deputy Chief), IVANTSOV, L. I. (Head Veterinary Doctor, Administration of Veterinary Medicine, Ministry of Agriculture, RSFSR).

"Timely implementation of measures in cases of subcutaneous Tabanus..."
Veterinariya, vol. 39, no. 3, March 1962 pp. 9.

Vol. 1, 2 (Chyvan, V.I.); Vol. 2, 3 (Chyvan, V.I.);
MIR, P.I.

Use of porous glass in filtration. Khim. prom. [Ukr.]
no. 4-71-72 (1963). (MIRA 17-6

SHISHKOV, V.M., inzh., BOCHENOV, V.N., inzh.; ANDREYEV, M.M., inzh.; BUGLAYEV,
V.I., inzh.

Studying the full-scale section of a plate type regenerator of
gas-turbine locomotives. Trudy BITM no.21:94-100 '64.

(MIRA 18:8)

LEVIN, I. I., kand. tekhn. nauk, dotsent; SHISHKOV, V. M., inzh.

Study of the heat exchange and resistance of tubes finned with
corrugated strips. Izv. vys ucheb. zav.; energ. 8 no.5:106-
110 My '65. (MIRA 18:6)

1. Bryanskiy institut transportnogo mashinostroyeniya.
Predstavlena kafedroy teplotekhniki.

MITROFANOV, Yuriy Mikhaylovich. Prinimali uchastiye: SHISHKOV,
V.N., inzh.; KRESTNIKOV, I.L., inzh.; IVANOVSKAYA, K.M.,
red.; BODANOVA, A.P., tekhn. red.

[Reinforced concrete sectional spans] Zhelezobetonnye chleren-
nye proletnye stroeniia. Moskva, Avtotransizdat, 1963. 55 p.
(MIRA 17:4)

SMISHKOV, V.P., Cand Vet Sci--(diss) "Morphologic changes
of the cardio-vascular system in highly productive cows upon
~~the disturbance of metabolism~~." Mos, 1956. 18 pp (Mos Vet
Acad of Agr USSR), 140 copies (R, 25-57, 217)

VERTINSKIY, K. I. (Professor), SHISHKOV, V. P. (Candidate of Veterinary Sciences,
Moscow Veterinary Academy).

"Diagnosis and pathogenesis of serious forms of acetonemia..."
Veterinariya, vol. 39, no. 2, February 1962 pp. 43

SHISHKOV, V. P. and SHATKINA, T. N. (Acad of Medical Sci. USSR)

"Synthesis of Organic Preparations, Tagged With Isotope C^{14} , From Acetylene"

Isotopes and Radiation in Chemistry, Collection of papers of
2nd All-Union Sci. Tech. Conf. on Use of Radioactive and Stable Isotopes and
Radiation in National Economy and Science, Moscow, Izd-vo AN SSSR, 1958, 380pp.

This volume published the reports of the Chemistry Section of the
2nd AU Sci Tech Conf on Use of Radioactive and Stable Isotopes and Radiation
in Science and the National Economy, sponsored by Acad Sci USSR and Main
Admin for Utilization of Atomic Energy under Council of Ministers USSR
Moscow 4-12 Apr 1957.

SHISHKOV, V.P.

PHASE I BOOK EXPLOITATION 307/453

Metody polucheniya i ismereniya radioaktivnykh preparatov: sbornik
stat'ey (Methods for the Production and Measurement of Radio-
active Preparations; Collection of Articles) Moscow, Akademiya,
1960. 307 p. Ershin slip inserted. 6,000 copies printed.

General Ed.: Valeriy Viktorovich Bochkarev; Ed.: M.A. Sauro;

Tech. Ed.: M.A. Vlasova.
PURPOSE: This collection of articles is intended for scientific and
technical personnel working in the production of radioactive iso-
topes.

COVERAGE: The collection contains original studies on methods of
obtaining and measuring radioactive preparations. According to
the foreword the articles contain new data and are of theoretical
and practical interest to the extent that they discuss methods of
the production of radioactive isotopes and the collection of radio-
active process information. In addition to several survey articles
the collection contains discussions on the production of radio-
active isotopes and inorganic radioactive preparations, including
a number of carrier-free isotopes and several colloidal and other
therapeutic preparations. Also discussed are methods for prepa-
ration of isotopes. In a number of tagged organic compounds, problems in the analy-
sis of tagged organic compounds, the absolute and relative measure-
ment of activity, and the radioelectric analysis of preparations. New
instruments and equipment are described and instructions con-
cerning measurement methods and V.P. Shishkov, Candidate of Tech-
nical Sciences, I.N. Shishkov, Candidate of Biological Sciences,
and V.I. Shishkov, Candidate of Chemical Sciences, are mentioned
as having participated directly in the selection and preparation of the
material for publication. References accompany each article.

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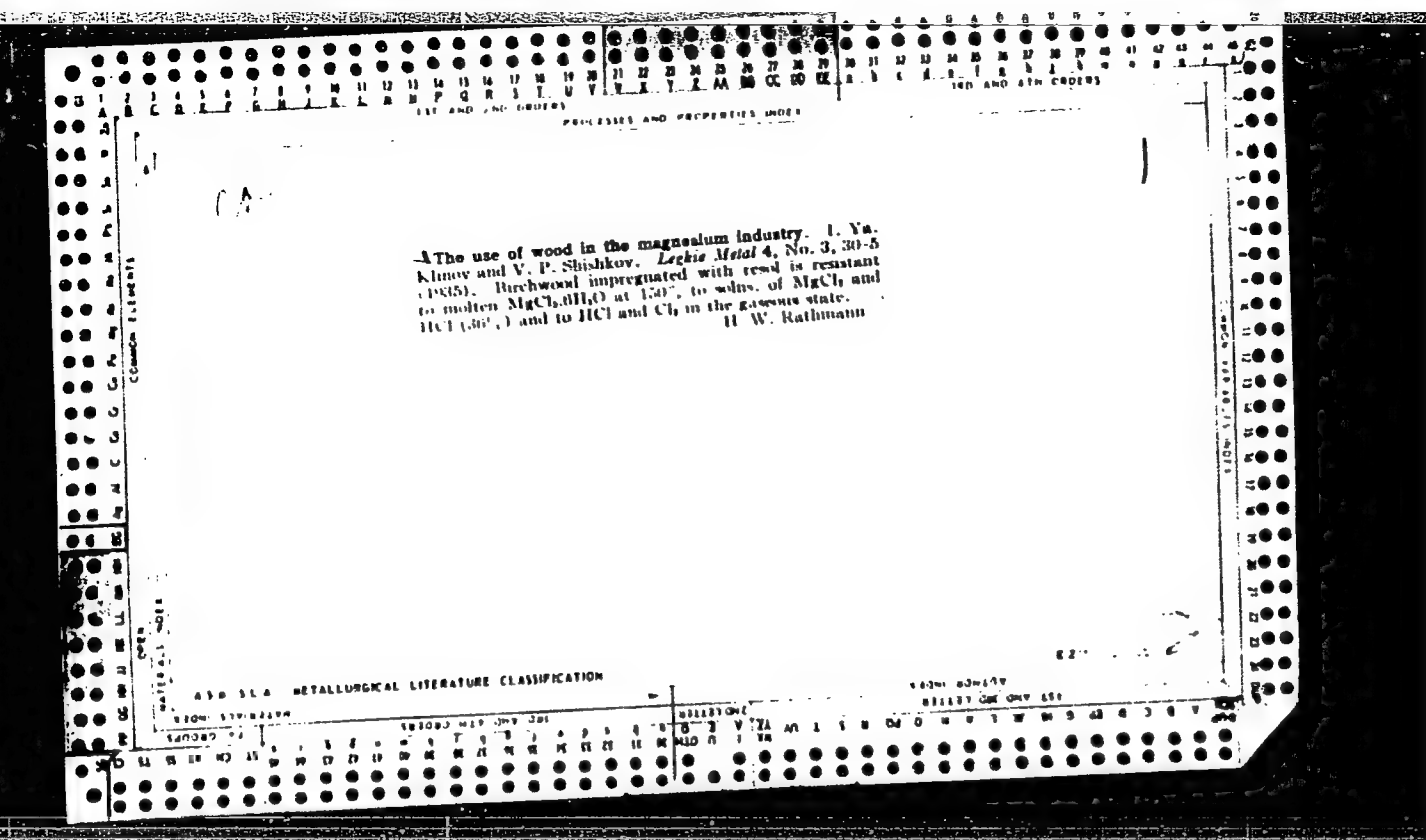
SHISHKOV, V.P., dotsent; BABAK, I.M., aspirant; SOLOV'YEV, F.A., dotsent;
DANILEVSKIY, V.M., dotsent; VISHNYAKOV, S.I., dotsent;
TITOV, G.I.; OKUNTSOV, L.P.; AFANAS'YEV, V.P.; ZHAROV, A.V.,
assistant; SLUGIN, V.S.; KRYLOV, O.N., aspirant

Noninfectious diseases. Veterinariia 41 no.4:64-80 Ap '64.
(MIRA 17:8)

1. Moskovskaya veterinarnaya akademiya (for Shishkov, Zharov).
2. Belotserkovskiy sel'skokhozyaystvennyy institut (for Babak).
3. Velikolukskiy sel'skokhozyaystvennyy institut (for Solov'yev).
4. Kurskiy sel'skokhozyaystvennyy institut (for Vishnyakov).
5. Zaveduyushchiy otdelom nezaraznykh zabolevaniy Buryatskoy
nauchno-proizvodstvennoy veterinarnoy laboratorii (for Titov).
6. Zaveduyushchiy Berezovskoy veterinarnoy laboratoriyey,
Volgogradskaya obl. (for Okuntsov). 7. Nauchno-issledovatel'skiy
institut sel'skogo khozyaystva Kraynego Severa (for Afanas'yev).
8. Pushkinskiy zverosovkhoz Moskovskoy oblasti (for Slugin).
9. Leningradskiy veterinarnyy institut (for Krylov).

Wood in chemical apparatus construction. I. Ya. Klimov and V. P. Shushkov. *Khim. Mashinostroenie* 1934, No. 3, 32 6.—Wood impregnated with liquid bakelite (A-modification) was found to be highly resistant chemically. Samples of impregnated wood were kept in cylinders filled with an acid, alkali or salt soln., with or without stirring, for various periods and at various temps. In the following, the 1st no. after the chem. formula represents the temp., the 2nd no. the concn. in percentage and the 3rd no. duration of test in months: NaCl 25, 30, 0; NaCl 60, 30, 0; NaCl 60, 25, 0; H₂SO₄ 24, 25, 30, 0; H₂PO₄ 60, 30, 0.5; H₂PO₄ 20, 60, 0.5; AcOH 40, 4.5; H₂PO₄ 60, 30, 0.5; H₂PO₄ 20, 8, 0; HF 20, 90, 0.5; AcOH 60, 60, 0.5; (COOH) 20, 8, 0; HF 25, 40, 0; NH₄OH 20, 25, 4.5; AlCl₃ 60, 60, 10; MgCl₂ 170, molten, 1.5; NH₄Cl 20, 20, 0; (NH₄)₂SO₄ 20, 20, 6; Na₂CO₃ 60, 10, 0; NaOH 20, 10, nonresistant; NO₂ 60, 3.5 4, 4.5; Cl₂ 70, 7, 4.5 and HCl (gaseous) 35, 14.5, 4.5. In all cases, except NaOH, the wood samples showed very good resistance to corrosion. S. L. Madorsky

ASME 3.1.1 METALLURGICAL LITERATURE CLASSIFICATION



ca

Polymerization of phenol-aldehyde resins within timber as an anticorrosive measure. I. Ya. Klinov and Y. E. Shishkov. *J. Applied Chem. (U. S. S. R.)* 8, 1043-8 (1935). The wood is impregnated with bakelite-A (60%, 4-5 hrs.), and the product heated at 120-140° to complete polymerization of the bakelite; under these conditions birch, beech and ash take up an equal wt. of resin, while pine and larch take up not more than 50%. The "bake-lited" wood so obtained is resistant to the corrosive action

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of numerous solns. and gases, with the exception of aq. NaOH. In general, the resistivity rises with the resin content, which for most purposes should amount to 30-50% of the wt. of the product. B. C. A.

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PROCESSES AND PROPERTIES INDEX

The use of phenol condensation products polymerizable in the cold as a construction material for chemical apparatus. V. P. Shishkov. *Org. Chem. Ind. (U. S. S. R.)* 5, 44-50 (1938). From extensive exptl. study and tests described here the optimum conditions have been developed for the prepn. and application of cold-setting PhOH-CH₂O resins as protective coating and cementing materials for metal and wood chem. equipment. To 100 parts by wt. of PhOH and 0.5 part of Petrov contact mixt. (naphthensulfonic acids) melted in a steam-jacketed kettle, fitted with a stirrer, is added 75 parts of 39.6-40% CH₂O soln. and the mixt. is heated at 58-59.6° to 3.6° viscosity (Engler) at 20°. The cold mixt. is treated with 50 parts of CH₂O soln. and allowed to stand for 24 hrs. The resol product can be stored for 6-10 days, depending on the room temp., and used directly as a coating material or converted into a cement by treating 100 parts with 50 parts of the Petrov contact mixt. and 155 parts of petroleum coke or a mixt. of 77 parts of the coke and 11 parts of fine asbestos. A layer of 2-4 mm. can be applied and, if necessary, covered with acid-resistant tile or brick. The product sets to a hard mass in 20-4 hrs. at room temp. The polymerization is completed in 10 days and the app. is ready for use. The cementing compns. show low porosity, satisfactory mech. properties and resistance to mech. wear and corrosion by 15% HCl and HCl extns. of phosphorites at 60° and 50% H₂SO₄ and H₂SO₄ extns. of apatite at 80° and adhesive power. Because of the close coeffs. of thermal expansion (20-100°) of the resite and acid-resistant tile and brick, cement and wood (pine) no excessive cracking or chipping of the cement coatings takes place. The use of HCl, H₂SO₄, H₃PO₄, and AcOH as catalyst in the condensation of PhOH with CH₂O and that of talc alone and in mixts. with coke and asbestos in forming the cement compns. produced inferior results.

Chas. Blanc

ASAC-SLA METALLURGICAL LITER

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The physical-mechanical properties and chemical stability of some phenol-aldehyde resins. V. P. Shishkov. *Trudy Moskov. Inst. Khim. Mashinostroyeniya* 1930, No. 7, 18-35; *Khim. Referat. Zhur.* 1940, No. 6, 122-3. — Resins obtained from equimol. quantities of PhOH and HCHO with alk. catalysts (pH of the resin 7.0-8.6) at 120° were highly adhesive. Increasing the temp. of 2-phase condensation from 25 to 80° increases the adhesiveness. Novolac with addns. of urotropine has max. adhesiveness at 80°. Resin obtained with an excess of aldehyde and an acid catalyst (pH of the resin 1.5) polymerizes 3.0-3.5 times faster than does resin with pH 8. An excess of HCHO accelerates the polymerization of phenol-aldehyde resins. Metal to be covered with cold-polymerization resins must be preliminarily covered with a layer of lacquer contg. minium 200 and bakelite lacquer 300 parts. Lacquers obtained by the condensation of phenol with

fatty oils and p-toluenesulfonic acid and other sulfonic acids as catalysts improve the physical-chem. properties of the films. Condensation of polyhydric phenols with excess HCHO takes place rapidly and requires no catalysts and heating. Preliminary treatment of the surface of the metal with phenol and a subsequent addn. of a layer of lacquer to the surface of the metal (the lacquer contg. 0.5% of free phenol) increases the adhesiveness. Addn. of powdered metal and graphite has a favorable effect on the adhesiveness. In an alk. medium formaldehyde and phenol form fusible condensation products which have a favorable effect on the physical-mech. properties of the film. Resins obtained from 2-phase condensation (neoleucorite) are very stable chemically. Phenol-aldehyde films can be used in acid media. Bases destroy the film readily. High contents of the heat-conducting filler (graphite) produce films that conduct heat readily. W. R. Hean

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

33001 519.42.00

GROUP

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SHISHKOV, V. P.

Chemically stable materials from polyatomic phenols and formaldehyde. V. P. Shishkov, *J. Chem. Ind. (U. S. S. R.)* 15, No. 3, 21-8 (1911); *Chem. Zentr.* 1943, I, 216; cf. *C. A.* 36, 4930¹.—Resorcinol (I)-PhOH-CH₂O resins and graphite at 20-5° become completely insol. and confusing. The product is satisfactory in chem. stability, mech. hardness and heat cond. Resin formation in polyphenols goes fastest with the *m*-compds. I and pyrogallol, slower with hydroquinone, and slower still with *para*-catechol. In all cases the presence of another group between the OH groups increases the chem. stability. In the first step of the reaction between I, PhOH and CH₂O, all the I reacts before any PhOH begins to react. The I-CH₂O resin is a catalyst for the further steps. H. M. I. Saran-molded and extruded products and their application. W. C. Goggin. *Can. Chem. Process Inds.* 28, 225-7, 231 (1944). W. H. Boynton

S. MITOV, V. .

② 3
Acid aldehyde. M. F. Shostakovskii and V. P. Shishkov.
U.S.S.R. 77,418, Dec. 31, 1949. Complex vinylates are
hydrolyzed in the presence of H_2O_2 . M. Hosh

SHOSTAKOVSKIY, M.F.; SHISHKOV, V.P.; NETERMAN, V.A.

The role of peroxides in processes of polymerization of vinyl compounds. Khim. i Fiz. Khim. Vysokomolekul. Soedineniy, Doklady 7-oy Konf. Vysokomolekul. Soedineniyam '52, 28-34. (MLRA 5:7)
(CA 47 no.15:7819 '53)

ISAGULYANTS, V.I.; MEDZYKHOVSKAYA, N.A.; SHISHKOV, V.P.; BABOTINA, V.P.

Synthesis and properties of the vinyl ether of 2-decahydro-2-naphthol.
Doklady Akad. Nauk S.S.S.R. 85, 329-30 '52. (MLRA 5:8)
(CA 47 no.15:7470 '53)

Chem Abs 448

1-25-54

Organic Chemistry

butoxyethyl acetate. M. F. Shostakovskii, N. A. Gersh-
ten, A. V. Bogdanova and V. P. Shishkov. *Akad. Nauk
S.S.S.R. Inst. Org. Khim. Sinter' Org. Soedinenii, Sbornik*
2, 25-26 (1952); cf. *C.A.*, 42, 4519J; 43, 3785i. —Three
methods are described. To 100 g. BuOCH₂CH₃ was added
with stirring at room temp. 30 g. AcOH, after which the
mixture was kept 4-5 hrs. at 60° and allowed to stand over-
night; distn. in vac. N atm. gave 91% *MeCH(OBu)OAc*, (I),
b_p 51.5-52°/5 mm. To 11 g. AcOH was added dropwise 20 g.
MeCH(OBu)OAc below 50°, after which the mixture was
kept 12 hrs. at 50° and allowed to stand overnight; distn.

gave 25 g. crude product, b_p 67-70°, which was washed 3
times with 5% NaHCO₃ and dried; distn. gave 85% I, b_p
67-68°. To 10 g. AcOCH₂CH₃ and 150 g. BuOH 0.21 g.
Iz-90 was added and the homogeneous soln. was kept in
open 30 days at 20° (heating yields insol. resin). Distn.
gave 88% I, b_p 52-53°, and 1 g. polyvinyl acetate. Pure I,
b_p 51.5-52°/5 mm, d₄ 0.9182, n_D²⁰ 1.4040. Similarly
were prepared: 87% *EtOCH₂MeOAc* (from EtOCHBrMe and
NaOAc in dioxane) or 85.6% from AcOCH₂CH₃ and EtOH
with Iz-90; the product, b_p 42-43°, d₄ 0.9142, n_D²⁰
1.3980; 88% *EtOCH₂EtOAc* (from AcOCH₂CH₃ and
EtOH with BuOH, b_p 47-48°, d₄ 0.9236, n_D²⁰ 1.3980; 47% *iso-*
AmOCH₂MeOAc from AcOCH₂CH₃ and iso-AmOH with
BuOH, b_p 43-44°, d₄ 0.9090, n_D²⁰ 1.4212. G. M. Kosolapoff.

MF
4-23-54

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CP

Synthesis of vinyl ether of guaiacol and a study of its properties M. F. Shostakovskii, V. P. Shishkuy, and M. G. Zelenskaya *Zhur. Priklad. Khim.* (J. Applied Chem.) 24, 1160-72 (1952) -- Heating guaiacol in an autoclave with acetylene and 50% aq. KOH under 15 atm. 11 36 hrs. to 180-200° gave after steam distn. 62% vinyl ether of guaiacol (I), b_m 200.5-2.0°, b_s 112-13°, d₄²⁰ 1.0048, n_D²⁰ 1.5356 Heating 450 g guaiacol with 450 g. (CH₃Cl)₂ and 75 g. KOH 10 hrs. at 140-50° gave 20% *o*-MeOC₆H₄OC(CH₃)₂CH₂Cl, b_s 140-1°, b₂ 250-1°, m. 44°, which, treated with alc. KOH 4 hrs. at 80°, gave 32% I, identical with the above. Hydrolysis of I in 10% H₂SO₄ at 60° is rather slow and in 8 hrs. 46% remains unreacted; addn. of dioxane as a mutual solvent hastens the hydrolysis to some extent; at 100° the hydrolysis is 60% complete in 5 hrs. without and 80% complete with dioxane. I polymerizes slowly with a FeCl₃ catalyst at room temp. but at 80° it forms a blue viscous mass within 3 hrs.

G. M. Kosolapoff

SHISHKOV, V. P.

21 Jul 52

USSR/Chemistry - Plastics

"Some Derivatives of the Vinyl Ether of Beta-Decalol," V.I. Isagulants Act Men, Acad Sci Armenian SSR, N. A. Medzghovskaya, V. P. Shishkov, "Dok Ak Nauk SSSR" Vol 85, No 3, pp 567-570.

The vinyl ether of beta-decalol reacts with nbutyl alc to give butyl-beta-decalylacetal, which disproportionates on distn and apparently on standing. The vinyl ether of beta-decalol adds bromine. It polymerizes very easily in the presence of acid catalysts (BF_3 , FeCl_3 , AlCl_3) or benzoyl peroxide. The polymers formed are hard, resinous substances. With BF_3 catalyst, the reaction goes at neg temps; on heating to 45-70° the reaction proceeds violently; at high temps, a low mol polymer results. The polymer is non-thermoreactive, hard, clear, colorless to light yellow in color, and sol in a number of org solvents. In connection with Polymerization under use of catalytically acting quantities of benzoyl peroxide, a cryst substance was extracted. According to its mol wt, it is a compd formed from 2 gram mols of the vinyl ether of decalol and one gram mol of oxygen.

235T14

SHENKOV, V.P.

hydroperoxide
MeCH CMeEt → Me
CMeAc. AD-100

hydroperoxide
MeCH CMeEt → MeCH
CMeAc. AD-100
unstable; on

PM 9/15

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B144/B186

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AUTHORS:

Anorova, G. A., Shishkov, V. P.

TITLE:

Synthesis of some S^{35} -tagged organic compounds

SOURCE:

Metody polucheniya radioaktivnykh preparatov; sbornik statey
(Methods of producing radioactive preparations; collection
of articles). Moscow, Gosatomizdat, 1962. 170 p. illus.,
biblio 5 - 26

TEXT: Methods were devised for synthesizing S^{35} -tagged 4-methyl-2-thiouracil (I), 2-aminothiazole (II), acetylthiocholine iodide (III), and mercaptan (IV) via several intermediate links or by isotopic exchange. I was synthesized with an activity yield of 30 - 35% from a mixture of 1.3 g metallic Na and 2 g thiourea. First the addition of 3.3 ml acetoacetic ester and 2 g thiourea. First the Na salt arises from which, in turn, the pure I (C 42.27, H 4.55, N 4.18) is obtained. Using thiourea without elemental S^{35} impurities the yield was 35.3 - 41.5%. An attempt was made to produce I by isotopic exchange from methyl thiouracil and Na_2S^{35} in aqueous medium or S^{35} in $(NH_4)_2S$.

Card 1/3

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Synthesis of some S^{35} -tagged...

II was produced from 2 - 10 g thiourea, 10 ml H_2O and 3 - 16 ml dichloro-diethyl ester by a 30-min heating on the boiling water bath, precipitating the free base from the solution of II hydrochloride, with NaOH, and purifying by adding excess benzene which was then evaporated in vacuo. The chemical yield was 40 - 60%, the activity yield was approximately 25%.

Synthesis of III: $(CH_2)_2S^{35} + ICOCH_3 \xrightarrow{CCl_4} I(CH_2)_2S^{35}COCH_3 \xrightarrow{(CH_3)_3N} (CH_3)_2NCH_2CH_2S^{35}COCH_3 \cdot CH_3I$. A new general reaction scheme is given for the synthesis of thioesters: $CH_3COSH + S^{35} \rightleftharpoons CH_3COS^{35}H + KOH \rightarrow CH_3COS^{35}K$

$ClCH_2CH_2N(CH_3)_2$, $CH_3COS^{35}CH_2CH_2N(CH_3)_2 \xrightarrow{CH_3I} CH_3COS^{35}CH_2CH_2N(CH_3)_2 \cdot CH_3I$.

The ethylene sulfide used for synthesizing III is obtained from potassium thiocyanate: $KS^{35}CN + (CH_2)_2O \xrightarrow{H_2O} (CH_2)_2S^{35} + KCNO$. The activity yield in III with respect to KSCN was 9%. IV was produced by isotopic exchange:

$C_6H_5CH_2SH + S^{35} \rightleftharpoons C_6H_5CH_2S^{35}H + S$ and synthetically:
Card 2/3

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EPR/EWP(j)/EPF(c)/EWT(m)/BDS--AFFTC/ASD--Ps-4/Pc-4/Pr-4--
RM/WW

ACCESSION NR: AT3002182

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AUTHOR: Bilik, Sh. M. (Dr. of technical sciences); Goroshkov, Yu. I. (Candidate of technical sciences); Luk'yanchikov, I. K. (Engineer); Shishkov, V. F. (Engineer)

TITLE: Insulating plastic bars as a small-size sectionalizing insulator

SOURCE: Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta. Trudy, no. 242, 1962. Primeneniye plastmass na zheleznodorozhnom transporte, 112-133

TOPIC TAGS: plastic sectionalizing insulator, KAST plastic, ISS-27,5 porcelain sectionalizing insulator

ABSTRACT: Extensive experimental investigations are reported of plastic materials for and design of a sectionalizing insulating bar intended for overhead contact wires in electrical/railroad systems. Mechanical tests permitted to choose a 16-plyglass-textolite bonded by BF-2 resin as the most suitable material for the bar. Its breaking load was 1.375 kg/sq cm. This material is manufactured (trademark KAST) by the Orekhovo-Zuyevo plant "Karbolit" according to the standard specifications TU285-54. Its electrical characteristics are reported in the article. The KAST bars were given 3 coats (ED-5 epoxy resin, E-4020 sealer based on ED-6 epoxy,

Card 1/2

1. "Klinika i patofiziologiya" (Clinical and pathophysiology), 1969, no. 1, p. 1.

Clinical and anatomical changes in the bone marrow in leukemia.
Vestnik Akad. Med. Nauk SSSR 1969, no. 9:22-3. Ag 1969.

(MIRA 17:10)

L. G. Gerasimova, V. A. Ivanova, A. A. Kiseleva.

ADOMAYTENE, S.V.; SIADKOV, A.M.; SHISHKOV, V.P.

Condensation of vinyl ethers with amides of substituted carboxylic acids. Part 1. Zhur.ob.khim. 34 no.2:432-434 F '64. (MIRA 17:3)

3

VERTINSKIY, K.I., prof.; SHISHKOV, V.P., dotsent; STREL'NIKOV, A.P.,
assistant

Aspergillosis in ducklings. Veterinariia 41 no.9:48-50 S '64.
(MIRA 18:4)

1. Moskovskaya veterinarnaya akademiya.

ADOMAYTENE, S.V.; SLADKOV, A.M.; SHISHKOV, V.P.

Condensation of vinyl ethers with amides. Part 2. Zhur. ob. khim.
34 no.9:2958-2960 S '64. (MIRA 17:11)

VERTINSKIY, K.I., prof.; ALIKAYEV, V.A., dotsent; PODKOPAYEV, V.M., dotsent;
SHISHKOV, V.P., dotsent; ANDREYEV, I.A., veterin. vrach (Moskovskaya
obl.); VLASOV, V.P., veterin. vrach (Moskovskayaobl.); MAMAYEV, A.P.,
veterin.vrach (Moskovskaya obl.); SHUL'GOVSKIY, I.P., veterin. vrach
(Moskovskaya obl.)

Diagnosis, therapy, and prophylaxis of toxic dyspepsia in calves.
Veterinariia 41 no.1:59-64 Ja '65. (MIRA 18:2)

1. Moskovskaya veterinarnaya akademiya (for Vertinskiy, Alikayev,
Podkopayev, Shishkov).

SHISHKOV, V.P., dotsent

Fluorescence microscopic determination of vitamin A in the
liver. Veterinariia 41 no.10:92-94 0 '64.

(MIRA 18:11)

1. Moskovskaya veterinarnaya akademiya.

PEREVOSHCHIKOVA. K.A.; BELOUSOV, A.P.; SHISHKOV, V.P.

Accumulation of glutamine by tumors and its inclusion in the proteins
of tumorous and normal cells. Vop. med. khim. 11 no.2:32-36 Mr-Ap
'65. (MIRA 18:10)

1. Biokhimicheskaya laboratoriya Gosudarstvennogo onkologicheskogo
instituta imeni P.A.Gertsena. Moskva.

SHISHKOV, V.S.

Summer activities for physics teachers. Fiz.v shkole no.6:71-73 '53.
(MLBA 6:10)

1. Moscow, 627-ya shkola.
(Physics--Study and teaching) (Teachers, Training of)

SHISHKOV, V.S., inzhener.

Device for resetting electropneumatic valves. Elek.1 tepl.tiaga
no.5:24-25 My '57. (MIRA 10:7)
(Electric locomotives)

SAVCHENKO, A.N., inzh.; SHISHKOV, V.S., inzh.

Special structural features of the high-voltage switch of the
transformer stages of the N-80 electric locomotive. Vest.
elektroprom. 33 no.5:8-11 My '62. (MIRA 15:5)
(Electric locomotives) (Electric switchgear)

SHISHKOV, V.Ye.

Conduct warble fly control measures in an organized manner. Veterinariia
34 no.3:8-12 Mr '57. (MLRA 10:4)

1. Zamestitel' nachal'nika Glavnogo upravleniya veterinarii Ministerstva
sel'skogo khozyaystva RSFSR.
(Warble flies) (Veterinary hygiene)

SHISHKOV, V. Ye.

Improving the work of meat, dairy and food product control stations.
Veterinariia 34 no.9:37-35 S '57. (MIRA 10:9)

1. Glavnyy epizootolog, zamestitel' nachal'nika upravleniya
veterinariii Glavnoy inspeksii po zhivotnovodstvu Ministerstva
sel'skogo khozyaystva RSFSR.
(Food adulteration and inspection)

NASAROV, V. P. (Senior Scientific Co-Worker of GNKI [State Scientific Control Institute for Veterinary Preparations]) and SHISHKOV, V. E. (Deputy Chief of Veterinary Department of the Ministry of Agriculture of RSFSR)

"Rabies and prophylactic immunization of animals"

Veterinariya, vol. 39, no. 5, May 1962 p. 58

SHISHKOV, V. E. (Assistant Chief) and YEFIMOV, V. A. (Chief Veterinary Sanitary Inspector, Veterinary Department of the Ministry of Production and Stockpiling of Agricultural Products of RSFSR)

"Organization of veterinary - sanitary practices at the base - model farms"
Veterinariya, vol. 39, no. 6, June 1962 p. 58

SHISHKOV, V.Ye.

Further improvement of veterinary service in the animal husbandry
of the R.S.F.S.R. Veterinariia 37 no.7:5-9 JI '60. (MIRA 16:2)

1. Zamestitel' nachal'nika Upravleniya veterinarii Ministerstva
sel'skogo khozyaystva RSFSR.
(Veterinary medicine)

NAZAROV, V.P., starshiy nauchnyy sotrudnik; SHISHKOV, V. Ye.

Rabies and the prophylactic immunization of animals. Veterinariia
39 no.5:58-61 Ky '62 (MIRA 18:1)

1. Gosudarstvennyy nauchno-kontrol'nyy institut veterinarnykh
preparatov (for Nazarov). 2. Zamestitel' nachal'nika Upravleniya
veterinariii Ministerstva sel'skogo khozyaystva RSFSR (for
Shishkov).

SHISHKOV, V.Ye.; YEFIMOV, V.A.

Planning of veterinary and sanitary measures on demonstration
farms. Veterinariia 39 no.6:58-61 Je '62 (MIRA 18:1)

1. Zamestitel' nachal'nika Upravleniya veterinarii Ministerstva
proizvodstva i zagotovok sel'skokhozyaystvennykh produktov
RSFSR (for Shishkov). 2. Glavnyy veterinarno-sanitarnyy inspektor
Upravleniya veterinarii Ministerstva proizvodstva i zagotovok
sel'skokhozyaystvennykh produktov RSFSR (for Yefimov).

SHISHKOV, V.Ye.

Improve the veterinary service on collective and state farms
of the Russian Federation. Veterinariia 40 no.6:11-15 Je '63.

(MIRA 17:1)

1. Zamestitel' nachal'nika Upravleniya veterinarii Ministerstva
proizvodstva i zagotovok sel'skokhozyaystvennykh produktov
RSFSR.

SHISHKOV, Ye.N.; IVANOV, V.M., inzh.

Laboratory of the Dzerzhinskii Glass Works as a communist labor
team. Zav.lab. 29 no.5:631 '63. (MIRA 16:5)
(Glass factories) (Chemical laboratories)

SHISHKOV, Ye.N.; IVANOV, V.M.

Laboratory of communist labor. Stek. i ker. 20 no.7:43-44
Jl '63. (MIRA 17:2)

1. Gusevskoy stekol'nyy zavod imeni Dzerzhinskogo.

USANOV, V.V., inzh.; Prinimali uchastiye; NAURITS, L.N., inzh.; TSIKLURI,
G.V.; SHISHOV, Ye.V.; VSEKHSVIATSKIY, V.N.; tekhnik; PONOMAREVA,
T.A.; tekhnik; SHCHERBAKOV, V.D.; tekhnik; SPESIVYKH, A.F.; tekhnik

Heat exchange and resistance in an axisymmetric nozzle at
low supersonic speeds. Trudy VNIIMASH no.5:61-83 '62.
(MIRA 18:3)

AUTHOR: Shishkov, Yu. A. SOV/50-58-6-19/24

TITLE: On Normal Linear Vector Correlation (O normal'noy lineynoy korrelyatsii vektorov)

PERIODICAL: Meteorologiya i gidrologiya, 1958, Nr 6, pp. 55-58 (USSR)

ABSTRACT: The theory of the correlation of scalar quantities is rather distributed in hydrometeorology. In spite of this, it is always considered inadequate since vector quantities are always used (wind, flow, pressure gradient, ice drift, and others more) which are connected with one another. This analytic connection cannot always be expressed since many factors cannot be determined. The theory of vector quantities must help in this case. However, this theory has hitherto been worked out only to an extremely small extent (Ref 1). Most regrettable is the fact that the achievements of this theory are used practically only to a very small extent since the latter deters by its seeming complicatedness. This is, however, not true. It is the object of the present paper to establish the mentioned theory in a form which can be used by the experts. First the tensors of regression

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On Normal Linear Vector Correlation

SOV/50-58-6-19/24

and correlation are explained and then the correlation exponent. Finally a method for the calculation of the correlation of two chance vectors is given. Table 1 gives an example of the correlation of the wind vector and the ice drift. There are 1 table and 1 reference, 1 of which is Soviet.

1. Meteorology--USSR 2. Hydrology--Applications 3. Hydrology
--Analysis

Card 2/2

SHISHKOV, Yu. A.

Ice conditions in the southwestern part of the Kara Sea and meridional heat transport in the atmosphere. Probl. Sev. no. 4:131-137
'61. (MIRA 15:1)

(Kara Sea--Sea ice)

ROMANOVA, N.A.; SHISHKOV, Yu.A.

Method of calculating the meridional transport indices of
heat and cold. Trudy Inst. okean. 57:47-49 '62. (MIRA 16:10)

SHISHKOV, Yu.A.

Meridional heat transport in the lower troposphere and the anomalies of temperature conditions in the northern part of the Atlantic Ocean. Trudy Inst. okean. 57:156-199 '62.
(MIRA 16:10)

L 06544-67 EWT(1) GW

ACC NR: AP6020981

(N)

SOURCE CODE: UR/0213/66/006/003/0416/0429

AUTHOR: Shishkov, Yu. A.

ORG: Institute of Oceanography, AN SSSR (Institut okeanologii AN SSSR)

17
B

TITLE: Temperature anomalies in the northern Pacific Ocean ¹⁷

SOURCE: Okeanologiya, v. 6, no. 3, 1966, 416-429

TOPIC TAGS: physical oceanography, water temperature, ~~real~~ temperature distribution, temperal temperature distribution, *OCEAN PROPERTY / NORTH PACIFIC OCEAN*

ABSTRACT: Results are presented of a study carried out to locate the position and time-wise distribution of the most significant water-temperature anomalies (by month and year) in surface waters of the North Pacific. The data used in the study were voluminous and consisted of data obtained in 1940—1960 from 48 shore- and island- based stations, 3 weather ships, and materials selected from Katalog sudovnykh okianograficheskikh nablyudeni (Catalog of oceanographic ship observations), compiled by the Institute of Oceanography, Academy of Sciences of the USSR. These data also included observations made at American Pacific coast and island stations. The study indicated that the northern Pacific, when large temperature anomalies are observed in the surface waters of the open sea, they also are observed in the offshore waters. Geographically, the area is divided into two regions, the southeastern and northwestern areas, in which opposite anomalies occur. The position of the

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UDC: 551.465.62/635(265/266)

L 06544-67

ACC NR: AP6020981

interface between these areas shifts from year to year, but, in general, the anomaly observed in the southeastern region exerts the predominant influence on the signs of the water-temperature anomalies averaged for the entire ocean. Changes in the sign of the anomaly in the southeastern region occur first in the southern portion of the area, moving gradually toward the north; in the northwestern region, the change takes place simultaneously along the entire coast. Charts compiled to show the distribution of water-temperature anomalies for the month of August during years in which the anomalies were largest indicate that this distribution cannot be attributed only to oceanic circulation. Orig. art. has 2 figures and 4 tables. [ER]

SUB CODE: 08/ SUBM DATE: 10Nov64/ ORIG REF: 004, OTH REF: -013

Card 2/2 *MLE*

S/074/60/029/06/03/005
B022/B003

AUTHORS: Shishkov, Yu. D., Opalovskiy, A. A.

TITLE: Physical and Chemical Properties of Chlorotrifluoride ✓

PERIODICAL: Uspekhi khimii, 1960, Vol. 29, No. 6, pp. 760-773

TEXT: Since all halogen fluorides are extremely reactive, the determination of their physical and chemical properties was very difficult, and was made possible only recently due to the improvement of the experimental technique. Several physical constants of known halogen fluorides are mentioned in Table 1. The sequence for the reactivity of halogen fluorides is as follows: $\text{ClF}_3 > \text{BrF}_5 > \text{IF}_7 > \text{ClF} > \text{BrF}_3 > \text{IF}_5 > \text{BrF}$. ✓ B

It results that chlorotrifluoride is the most reactive one. This compound is mainly used as a fluorination agent for preparing uranium hexafluoride which is utilized as a reactor fuel. Hitherto no survey of publications has provided data on the systems basing on chlorotrifluoride, since such investigations were made only lately, and were published in the press in connection with the work of the Second International Conference on the

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Physical and Chemical Properties of
ChlorotrifluorideS/074/60/029/06/03/005
B022/B003

Peaceful Uses of Atomic Energy. The methods mentioned in publications for the production of chlorotrifluoride and its physical properties are discussed. Fig. 1 illustrates the results of determination of the melting point of chlorotrifluoride with different degrees of purity. The vapor pressure of chlorotrifluoride is given in Fig. 2. Data on the molar thermal capacity of chlorotrifluoride are compiled in Table 2. The viscosity of chlorotrifluoride is indicated in Table 3; the values of the equilibrium constants K_e for the reaction $\text{ClF}_3 \rightleftharpoons \text{ClF}_2 + \text{F}_2$, in Table 4; the K_e -values for the reaction $2\text{ClF}_3 \rightleftharpoons (\text{ClF}_3)_2$, in Table 5. Further, data are supplied on the association of ClF_3 , nuclear magnetic resonance spectra, infrared absorption spectra, and Raman spectra. The most important chemical reactions of chlorotrifluoride are listed, and especially the interaction of ClF_3 with metallic uranium is dealt with in detail. The diagram of the equilibrium between the solid and the liquid phase in the system ClF_3 - HF is shown in Fig. 3; the liquid - gas equilibrium for the system ClF_3 - HF, in Fig. 4; and the solid - liquid equilibrium for the system ClF_3 - UF_6 , in Fig. 5. The liquid - gas equilibrium for the system ClF_3 - UF_6 is graphed in Fig. 6; the solid -

✓B

Card 2/3

GALKIN, N.P.; PONOMAREV, L.A.; SHISHKOV, Yu.D.; PODOSHVINA, V.A., red.;
VLASOVA, N.A., tekhn. red.

[Plutonium hexafluoride, its preparation and properties] Geksaf-
torid plutonia, ego poluchenie i svoistva. Moskva, Gos.izd-vo
lit-ry v oblasti atomnoi nauki i tekhniki, 1961. 34 p.
(MIRA 15:2)

(Plutonium fluoride)

SHISHKOV, Yu. D.

2

PHASE I BOOK EXPLOITATION

SOV/5800

Galkin, N. P., A. A. Mayorov, U. D. Varyatin, B. N. Sudarikov,
M. S. Nikolayev, Yu. D. Shichkov, A. B. Krutikov

Khimiya i tekhnologiya fluoristykh soedineniy urana (Chemistry and Technology of Uranium Fluoride Compounds) Moscow, Gosatomizdat, 1961. 347 p.
Errata slip inserted. 4500 copies printed.

Ed. (Title page): N. P. Galkin, Doctor of Technical Sciences, Professor;
Ed.: N. A. Korobtsova; Tech. Ed.: S. M. Popova.

PURPOSE: This book is intended for chemical and nuclear engineers and
teachers and students of schools of higher education.

SCOPE: The monograph reviews Soviet and non-Soviet literature published
up to June 1960 on the physicochemical properties of uranium fluorides
and methods of producing them from salts, oxides, and metallic uranium.
Methods of processing uranium chemical concentrates to the tetra- and hexa-
fluorides, which are initial products in the production of nuclear fuel,

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Chemistry and Technology of Uranium (Cont.)

SOV/5850

... of primary interest. Fluoride methods are preferred to hydrometallurgical methods because radioactive waste solutions in the former are ... of the waste is not a problem or eliminated. No personalities are mentioned. References are given in individual chapters.

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S/020/62/143/001/023/030
B106/B138

21.42.0
AUTHORS: Nikolayev, N. S., and Shishkov, Yu. D.

TITLE: Fluorination reaction of uranium tetrafluoride with chlorine trifluoride

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 1, 1962, 130 - 132

TEXT: The reaction was studied between 18 - 300°C. Under the experimental conditions (action of ClF_3 on UF_4 in a certain period at the temperatures investigated) uniform residues of the UF_4 fluorination were found. It was inferred from the results of chemical and of X-ray analyses of these residues that intermediate stages exist via which the reaction takes place. The UF_6 yield served as a criterion for the reaction intensity.

The results are shown in Fig. 1. The first reaction step (up to 50°C) follows the pattern $3\text{UF}_4 + 2\text{ClF}_3 \rightarrow 3\text{UF}_6 + \text{Cl}_2$ (1). The reactions $12\text{UF}_4 + \text{ClF}_3 \rightarrow 3\text{U}_4\text{F}_{17} + 1/2 \text{Cl}_2$ (2), and $3\text{U}_4\text{F}_{17} + \text{ClF}_3 \rightarrow 6\text{U}_2\text{F}_9 + 1/2 \text{Cl}_2$ (3) take place from 50°C onward. These two reactions are predominant up

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to 100°C. If temperatures are still higher, UF_5 is formed as a result of the reaction $3U_2F_9 + ClF_3 \rightarrow 6UF_5 + 1/2 Cl_2$ (4). The dipping part of the curves in Fig. 1 corresponds to a decrease in the amount of UF_4 and to the predominance of the U_2F_9 phase in solid residues. This phase is fluorinated in the course of the reaction following Eq. (4). Finally, the almost pure phase UF_5 is found at 150°C. It continues to react with chlorine trifluoride, following the pattern $3UF_5 + ClF_3 \rightarrow 3UF_6 + 1/2 Cl_2$ (5). This reaction shows a much lower intensity than reaction (1) so that the UF_6 yield diminishes and finally reaches a minimum. Within this minimum, the formation of UF_6 takes place exclusively via uranium pentafluoride. The higher UF_6 yield with increased temperature (up to 300°C) is caused by an increase in the intensity of reaction (5). The fluorination of UF_4 was compared with the well known reaction of uranium tetrafluoride with gaseous fluorine (Ref. 4: see below). When fluorine acts

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on UF_4 at room temperature no hexafluoride is formed, whereas fluorination with ClF_3 under the same conditions renders considerable yields of UF_6 . Comparable yields of the two fluorination reactions are observed at temperatures $>300^\circ C$, but even here, the process with ClF_3 shows a noticeably higher intensity. Thus, ClF_3 is more active in fluorination under similar conditions than fluorine. The equilibrium constants for reaction (1) and for the reaction $UF_4 + ClF_3 \rightarrow UF_6 + ClF$ (7), which might possibly be taken into consideration were calculated:

$$K(1) = \begin{cases} 4.4 \cdot 10^{94} & (\text{for } 25^\circ C) \\ 1.4 \cdot 10^{56} & (\text{for } 300^\circ C) \end{cases} \quad K(7) = \begin{cases} 3 \cdot 10^{34} & (\text{for } 25^\circ C) \\ 1.6 \cdot 10^{21} & (\text{for } 300^\circ C) \end{cases} . \text{ The}$$

authors concluded from these high values that no values of thermodynamic constants were involved. A comparison of the two value couples, however, shows a predominance of reaction (1). Furthermore, chlorine was the predominant component of the gaseous reaction products in all conducted

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B106/B138

experiments. ClF was only formed in unimportant small amounts which were probably caused by secondary reactions. There are 1 figure and 5 non-Soviet references. The four most recent references to English-language publications read as follows: H. R. Leech, Chem. and Ind., 1960, 5, 242; V. Y. Labaton, J. Inorg. and Nucl. Chem., 10, 86 (1959); Ref. 4: V. Y. Labaton, K. D. Johnson, J. Inorg. and Nucl. Chem., 10, 74 (1959); L. Stein, R. Vogel, Ind. and Eng. Chem., 48, No. 3 (1956).

PRESENTED: October 11, 1961, by I. V. Tananayev, Academician

SUBMITTED: October 11, 1961

Card 4/5

X

L 14925-63

ENP(q)/EWT(m)/BDS JD/JW/JG

ACCESSION NR: AP3003988

S/0089/63/015/001/0081/0081

AUTHORS: Nikolayev, N. S.; Shishkov, Yu. D.

TITLE: Fluorination of uranium sulfate by chlorine trifluoride

SOURCE: Atomnaya energiya, v. 15, no. 1, 1963, 81

TOPIC TAGS: fluorination, uranium sulfate, chlorine trifluoride

ABSTRACT: The authors have studied the fluorination reaction of uranium sulfate by a gaseous chlorine trifluoride in a horizontal cylindrical nickel reactor. ClF_3 acted on $\text{U}(\text{SO}_4)_2$ for an hour at various temperatures. The composition of the solid phase was analyzed chemically and by X-ray diffraction. The yield of reactions was measured by UF_6 . The results are given in a table. The fluorination reaction is described by a chemical formula. Orig. art. has: 1 formula and 1 table.

ASSOCIATION: none

SUBMITTED: 01Nov62

SUB CODE: PH

DATE ACQ: 08Aug63

NO REF SOV: 001

ENCL: 00

OTHER: 004

Card 1/1

[illegible]

Interact. of metallic uranium with hydrogen. 1974. 5001
no.10:17-183. (1974, 17:17-183)

SHALIMOV, B.S.; TARASOV, V.I.; SUDARIKOV, B.N.

Interaction of metallic uranium with water vapor. Trudy MGNTI
no.43:72-77 '63. (KDA 17:10)

GALKIN, N. P.; TARASOV, V. I.; SHISHKOV, Yu. D.

"Thermochemical properties of oxides, halides, oxyhalides and mixed halides of uranium."

report submitted for 3rd Intl Conf, Peaceful Uses of Atomic Energy, Geneva, 31 Aug-9 Sep 64.

L 41372-65 EWT(1)/EWT(m)/EPF(n)-2/EMP(t)/EMP(b) Pu-4 IJP(c) ES/JD/KW/
JG/GW

ACCESSION NR AM5004510

BOOK EXPLOITATION

S/29

Galkin, N. P. (Doctor of Technical Sciences); Sudarikov, B. N.; (Candidate of
Chemical Sciences); Veryatin, U. D.; Shishkov, YU. D.; Mayorov, A. A.

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BT

Technology of uranium (Tekhnologiya urana), Moscow, Atomizdat, 1964, 308 p.
illus., biblio. 173, 650 copies printed.

TOPIC TAGS: uranium, uranium compound, geochemistry, nuclear fuel

PURPOSE AND COVERAGE: The book is intended for training engineers in the specialty "technology of natural radioactive elements". In the course that is offered in the Moscow Order of Lenin Chemical Engineering Institute imeni D. I. Mendeleev. The description of the technological processes is preceded by a section covering the history of the uranium industry, the use of uranium, the chemical and physical-chemical properties of metallic uranium and its most important compounds, and some problems of the geochemistry of uranium. The technological processes for processing uranium or to obtain metallic uranium and its compounds used for nuclear fuel are presented in sequence, beginning from the ore beneficiation plant and ending in the specialized plants producing the finished product. Basic attention in this text is given to the chemical and physical-chemical bases of the processes and their equipment.

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ACCESSION NR AM5004510

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SUBMITTED: 28Oct64

SUB CODE: MM, CC

NO REF SOV: 010

OTHER: 002

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